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EXAMINER

ROSS, JOHN M

ART UNIT

PAPER NUMBER

2188

DATE MAILED: 09/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/739,265

Applicant(s)

YASOSHIMA, HIROYUKI

Examiner

John M Ross

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 April 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 April 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All   b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_                      6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. The Information Disclosure Statement(s) received 19 December 2000 has been considered. Please see attached PTO-1449(s).

### ***Drawings***

2. Figures 1A-1D and 2A-2B should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

3. Claims 2-4,7-9,13-14 and 18-19 are objected to because of the following informalities:

Regarding claims 2 and 7, the phrase "said memory area" (Claim 2, line 4; claim 7, lines 4 and 8) is improper because a "memory area" has not been recited in any prior claims. It is suggested that this phrase be replaced by the phrase "said memory array". The claims will be interpreted in light of this suggestion.

Regarding claims 3,8,13 and 18, the phrase "said memory array is implemented utilizing a ring buffer" is inconsistent with the specification (Page 1, paragraph 3). It is suggested that

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this phrase be replaced by the phrase "said first-in/first-out memory device is implemented utilizing a ring buffer". The claims will be interpreted in light of this suggestion.

All dependent claims are objected to as having the same deficiencies as the claims they depend from.

Appropriate correction of the above claim objections is required.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-5 and 11-15 rejected under 35 U.S.C. 102(e) as being anticipated by Kornher (US 6,094,695).

As in claims 1-5, Kornher discloses a system comprising:

a memory array having a plurality of address locations for storing incoming data (Fig. 1, elements 22 and 26; column 4, lines 18-22 and 39-43);

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a boundary pointer for indicating an end point of a buffer area formed within the memory array into which the incoming data can be stored (Figs. 1 and 2, elements 24 and 26; column 4, lines 23-26 and 54-58); and

a controller for adjusting the value of the boundary pointer in accordance with the amount of incoming data to be stored (Fig. 1, element 20; column 4, lines 18-28).

As in claim 2, Kornher discloses a system further comprising:

a read pointer, coupled to the memory array, for indicating a read address of the buffer area (Fig. 2, element 42; column 5, lines 7-17); and

a write pointer, coupled to the memory array, for indicating a write address of the buffer area (Fig. 2, element 40; column 5, lines 7-17).

As in claims 3-4, Kornher discloses that the first-in/first-out memory device is implemented utilizing a ring buffer (Fig. 3; Column 5, lines 25-31; column 6, line 59 to column 7, line 25; Fig. 7G; column 10, lines 54-57). It is clear in the system of Kornher that when the write pointer (i.e. head pointer) reaches the end of the memory allocated to the first-in/first-out buffer, the pointer wraps back around to the beginning of the allocated buffer memory, and thus behaves according to the definition of a ring buffer.

As in claim 4, Kornher discloses that the controller operates to move the boundary pointer so as to increase the size of the buffer on the basis of a 1:1 correspondence with the amount of incoming data (Fig. 3; column 6, lines 22-58). The boundary pointer in the system of

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Kornher is moved only when a data word needs to be added to the buffer, and the boundary moves a single data word at a time (i.e. on a 1:1 basis with the incoming data).

As in claim 5, Kornher discloses that the controller dynamically varies the value of the boundary pointer during operation in response to the amount of incoming data to be stored (Column 2, lines 54-59).

Method claims 11-15 are rejected using the same rationale as the rejection of device claims 1-5 and above.

6. Claims 6-10 and 16-20 are rejected under 35 U.S.C. 102(b) as being anticipated by O'Neill (WO 96/38778 A1).

As in claims 6-10, O'Neill discloses a system comprising:

a memory array having a plurality of address locations for storing incoming data (Fig. 2; page 2, lines 14-25);

a first boundary pointer for indicating an end point of a first buffer area formed within the memory array into which the incoming data can be stored (Fig. 3, element A; page 3, lines 10-21);

a second boundary pointer for indicating an end point of a second buffer area formed within the memory array into which the incoming data can be stored (Fig. 3, element B; page 3, lines 10-21); and

a controller for adjusting the value of the first and second boundary pointers in accordance with the amount of incoming data to be stored (Page 2, lines 8-13; page 2, line 26 to page 3, line 2; page 3, lines 22-27).

The rejection of claims 6-10 is based on the recognition that delimiters A and B of Fig. 3 of O'Neill define both the end point of a first buffer and the beginning point of a second buffer that is adjacent to the first (Page 2, lines 8-13). It is also recognized that a controller must be present as a means for "controlling the alteration of delimiters" (Page 3, line 28).

As in claim 7, O'Neill discloses a system further comprising:

a first read pointer, coupled to the memory array, for indicating a read address of the first buffer area (Fig. 2; Fig 3, element "BOTTOM"; page 3, lines 10-21);

a first write pointer, coupled to the memory array, for indicating a write address of the first buffer area (Fig. 2; Fig 3, element "TOP"; page 3, lines 10-21);

a second read pointer, coupled to the memory array, for indicating a read address of the second buffer area (Fig. 2; Fig 3, element "BOTTOM"; page 3, lines 10-21); and

a second write pointer, coupled to the memory array, for indicating a write address of the second buffer area (Fig. 2; Fig 3, element "TOP"; page 3, lines 10-21);

The rejection of claim 7 is based on the recognition that Fig. 2 of O'Neill shows a memory array divided into a plurality of memory areas (Fig. 2, elements labeled "Tx" and "Rx"), where each memory area comprises a first-in/first-out buffer, and Fig. 3 of O'Neill shows a

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detailed description that applies to each first-in/first-out memory of Fig. 2 (Page 1, lines 3-6 and 22-27). Further, the elements of Fig. 3 labeled "TOP" and "BOTTOM" are understood to respectively represent write and read pointers for the first-in/first-out buffers (Page 3, lines 10-21).

As in claims 8-9, O'Neill discloses that the first-in/first-out memory device is implemented utilizing a ring buffer (Fig. 3; page 3, lines 16-21). The description of circulating pointers in O'Neill is equivalent to the description of a ring buffer.

As in claim 10, O'Neill discloses that the controller dynamically varies the value of the boundary pointer during operation in response to the amount of incoming data to be stored (Page 2, line 26 to page 3, line 2; page 3, line 24 to page 4, line 7). Because O'Neill indicates that the boundaries are altered as an adaptation to monitored traffic flows, and also describes a method to move the boundaries while the first-in/first-out buffer is occupied with data, it may be understood that this process takes place dynamically.

Method claims 16-20 are rejected using the same rationale as the rejection of device claims 6-10 and above.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:



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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 9 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over O'Neill (WO 96/38778 A1) in view of Kornher (US 6,094,695).

O'Neill is relied upon for the teachings relative to claim 8 above.

O'Neill also teaches that a controller may vary the value of the boundary pointers during operation in response to the amount of incoming data to be stored (Page 2, line 26 to page 3, line 2).

O'Neill does not teach that the controller operates to move the first and second boundary pointers so as to increase the size of the buffers on the basis of a 1:1 correspondence with the amount of incoming data as required by claim 9.

The rationale derived from Kornher in the rejection of claim 4 above is incorporated herein for the teaching of a controller operating to move a boundary pointer so as to increase the size of a buffer on the basis of a 1:1 correspondence with an amount of incoming data (Fig. 3; column 6, lines 22-58).

Kornher also teaches that moving the boundary allows the buffer size to increase and decrease as needed, thereby allowing a smaller amount of memory space to be reserved for data storage (Column 2, lines 54-62).

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Regarding claim 9, it would have been obvious to one of ordinary skill in the art at the time of invention by applicant to move the boundary pointers in the system of O'Neill on the basis of a 1:1 correspondence with an amount of incoming data as taught by Kornher, in order to increase and decrease the buffer size as needed and allow a smaller amount of memory space to be reserved for data storage as also taught by Kornher.

Method claim 14 is rejected using the same rationale as the rejection of device claim 9 above.

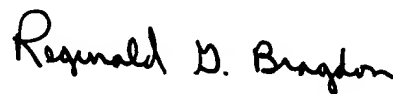
### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John M Ross whose telephone number is (703) 305-0706. The examiner can normally be reached on M-F 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mano Padmanabhan can be reached on (703) 306-2903. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

  
JMR

  
REGINALD G. BRAGDON  
PRIMARY EXAMINER